

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

SPECIAL PROJECTS DEPARTMENT

Real Estate Services Division
50 E. North Temple Street, 12th Floor
Salt Lake City, Utah 84150-0012

January 22, 2015

Ying Ying Macauley
State of Utah
Department of Environmental Quality
Division of Drinking Water
P.O. Box 144830
Salt Lake City, Utah 84114-4830

Re: Final Operating Permit Request for the Dugway Ward Iron and Manganese Treatment (TP001), ,
System #23065, File #09814

Dear Ying Ying,

The Division of Drinking Water issued the attached Conditional Plan Approval for the installation of iron and manganese treatment at the Dugway Ward water system, System #23065, File #09814 on November 14, 2014. The treatment equipment has been installed, and we request an operating permit to proceed.

The changes have been made according to the approved plan and in accordance with Drinking Water Administrative Rules. Per the plan approval requirements, I have included the following with this letter in order to obtain an operating permit:

1. Utah Registered Engineer's Certification of Rule Conformance that all conditions of plan approval have been accomplished

Construction occurred in the month of December, with construction being completed by December 16th. The required sampling was begun on December 16th through the 18th.

The only condition of plan approval was providing an air gap on the drain discharge line prior to the connection to the existing building drain. Figure 1 shows the air gap as the treatment system drain discharges into the mop sink in the janitor's closet. The treatment equipment is located on the building's second story, above the janitor's closet. The drain comes into the janitor closet through the roof, and terminates two pipe diameters above the overflow level of the mop sink.



Figure 1- Treatment drain discharge.

The location of the brine tank for the water softener was moved from the first story to the second story, into the same room as the water softener.

The only other condition of plan approval was to provide water quality results from four different days. I've included a discussion of this item below.

2. ***Utah Registered Engineer's statement of what plan changes, if any, were necessary during construction and a Certification of Rule Conformance that all of these changes were in accordance with applicable Utah Administrative Code***

We did not make any changes to the plans during construction. The plans show different phases of construction. Only Phase I has been completed.

3. ***As-built drawings have been received at the Division***

We have not prepared as-built drawings since there were not any changes to the original drawings.

4. ***Confirmation that the record drawings have been received by the water system***

Because there were no significant changes to the plans, as-built drawings were not produced.

5. Evidence of proper flushing and disinfection in accordance with the appropriate ANSI/AWWA Standards

The treatment plant was flush and appropriately disinfected prior to being put in use. "ANSI/AWWA C652-03, AWWA Standard for Disinfection of Water Treatment Plants" requires two consecutive samples per unit, none positive, no less than 30 minutes apart. A total coliform sample was taken December 16. A total coliform sample was taken December 16, 2014, and was analyzed by Chemtech-Ford. A second sample was taken on January 23, 2015. The results were absent for total coliform, and are included with the Chemtech-Ford results that follow this letter.

6. Water quality data, where appropriate

Date	Description	Iron	Manganese	TDS	pH	Chloride	Turbidity
12/16/2014	Raw Water	5.94 mg/L	0.7640 mg/L	3030 mg/L	7.5	1050 mg/L	60 NTU
	Treated	ND	0.0476 mg/L	2660 mg/L	7.4	950 mg/L	0.9 NTU
12/17/2014	Raw Water	4.5 mg/L	0.7200 mg/L				
	Treated	ND	0.0127 mg/L				
12/18/2014	Raw Water	5.55 mg/L	0.7290 mg/L	2960 mg/L	7.6	1000 mg/L	31 NTU
	Treated	0.02 mg/L	0.0290 mg/L	2600 mg/L	7.5	901 mg/L	0.56 NTU
1/23/2015	Raw Water	5.26 mg/L	0.842 mg/L	2750 mg/L	8.0	1020 mg/L	5.30 NTU
	Treated	ND	ND	3090 mg/L	8.1	1060 mg/L	0.10 NTU

Copies of the original reports from the lab are attached to this letter. Some of the pages have been removed to avoid confusion because the reports contained sample results for other Public Water Systems.

It's noted that the TDS levels of the raw water turbidity have increased drastically since the initial water samples were taken that initiated this project. Because the TDS is coming from the source, we request that this issue be addressed in a different project, and that an operating permit be given for this treatment plant.

7. Confirmation that the water system owner has received the O&M Manual for the new facility

I am an employee of the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints, and the administrative contact. We produced the O&M Manual in-house, and have provided copies to the Facility Manager to be kept at the meetinghouse.

Please contact me if you have any additional questions or require more information. I can be reached by phone at 801-240-4656, or by email at mcdanielrb@ldschurch.org.

Sincerely,



Roy B. McDaniel, P.E.
Water Resources Manager



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF DRINKING WATER
Kenneth H. Bousfield, P.E.
Director

November 14, 2014

Roy Benson McDaniel
Dugway Ward
50 E North Temple St, Rm 1205
Salt Lake City, Utah 84150-6320

Dear Mr. McDaniel,

Subject: **Conditional Plan Approval**, Dugway Ward Iron and Manganese treatment (TP001),
System #23065, File #09814

On November 5, 2014, the Division of Drinking Water (the Division) received the plans and specifications for the Dugway Ward iron and manganese treatment project from you.

Our understanding of the project is installation of pressure gauges between existing pre-filters (which meets the ANSI/NSF61 Standard), installation of an aeration tank, two (2) Nugen pressure filters with filter media that meet the ANSI/NSF 61 Standard and designed for the removal of iron and manganese, and a water softening system including a salt brine tank connected to a pressure tank. This portion of the project also includes installation of miscellaneous piping, sampling sink, and isolation valves. Depending on the funding and the decision of the facility manager, a new chlorination process may be installed with the iron and manganese treatment process. If the chlorination portion of the project is installed, it will include a new sodium hypochlorite chlorinator, and three 80-gallon mix-master tanks for disinfection contact time, and the miscellaneous appurtenances associated with a hypochlorite facility (including eye wash, spill containment, injection pump solution tank, flow meter, etc.). This iron and manganese treatment facility is identified as TP001 in our inventory.

We have completed our review of the plans and specifications, stamped and signed by Roy McDaniel, P.E. and dated November 5, 2014, and find they basically comply with the applicable portions of Utah's Administrative Rules for Public Drinking Water Systems in R309. **We hereby approve the proposed plans to construct the Dugway Ward iron and manganese treatment facility subject to the following condition:**

- Provide an air gap on the drain discharge line prior to the connection to the existing building drain.

Conditions of approval must be addressed in writing to the satisfaction of the Director prior to having an operating permit issued.

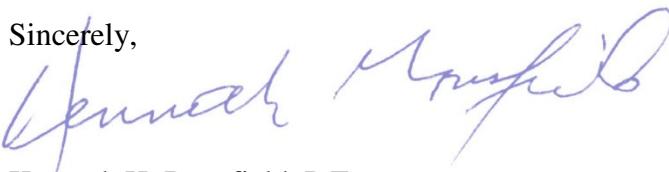
This approval pertains to construction only. **An operating permit must be obtained from the Director before the Dugway Ward iron and manganese treatment facility may be put into service.** A checklist outlining the items required for operating permit issuance is enclosed for your information.

The most recent raw water sample results indicate levels of iron, chloride, manganese, TDS and turbidity above the maximum contaminant level (MCL). **You are required to submit water sample results to verify effective performance of the new treatment facility prior to obtaining an Operating Permit for this project.** A total of 8 samples (i.e., 4 sets of raw and finished water samples) shall be tested from 4 different days. Each raw and finished water sample shall be analyzed for iron, manganese, total dissolved solids (TDS), pH, chloride and turbidity.

Approvals or permits by local authority or county may be necessary before beginning construction of this project. As the project proceeds, notice of any changes in the approved design, as well as any change affecting the quantity or quality of the delivered water, must be submitted to the Division. We may also conduct interim and final inspections of this project. Please notify us when actual construction begins so that these inspections can be scheduled.

This approval must be renewed if construction has not begun or if substantial equipment has not been ordered within one year of the date of this letter. If you have any questions regarding this letter, please contact Tammy North of this office, at (801) 536-4293, or Ying-Ying Macauley, Engineering Section Manager, of this office, at (801) 536-4188.

Sincerely,



Kenneth H. Bousfield, P.E.
Director

TN

Enclosure — Operating Permit Checklist

cc: Bryan Slade, Tooele Environmental Health Director, bslade@tooelehealth.org
Roy McDaniel, Dugway Ward, McDanielRB@ldschurch.org
Matthew Bunkall, Facilities Manager- Dugway Ward, bukallms@ldschurch.org
Scott Larsen, Dugway Ward, scott.larson@ldschurch.org
Tammy North, Division of Drinking Water, tnorth@utah.gov



12/31/2014

Work Order: 1414055

LDS Church Tooele FM Group

Attn: Matt Bunkall

P.O. Box 237


Tooele, UT 84074

Client Service Contact: 801.262.7299

The analyses presented on this report were performed in accordance with the National Environmental Laboratory Accreditation Program (NELAP) unless noted in the comments, flags or case narrative. If the report is to be used for regulatory compliance, it should be presented in its entirety, and not be altered.



Approved By:


Dave Gayer, Laboratory Director



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414055-01

Name: LDS Church Tooele FM Group

Sample Date: 12/16/2014 11:30 AM

Sample Site: Dugway

Receipt Date: 12/16/2014 1:11 PM

Comments: Treated

Sampler: Client

Sample Matrix: Drinking Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	950	250	25	mg/L	EPA 300.0	12/16/2014 22:00	12/16/2014 22:00	
pH	7.4		0.1	pH Units	SM 4500 H-B	12/16/2014 12:00	12/16/2014 12:00	
Total Dissolved Solids (TDS)	2660	1000	20	mg/L	SM 2540 C	12/22/2014 11:19	12/22/2014 11:19	
Turbidity	0.90	5	0.02	NTU	EPA 180.1	12/16/2014 18:00	12/16/2014 18:02	
Metals								
Iron, Total	ND	0.3	0.02	mg/L	EPA 200.7	12/29/2014 09:32	12/29/2014 13:42	
Manganese, Total	0.0476	0.05	0.0005	mg/L	EPA 200.8	12/18/2014 08:46	12/18/2014 16:34	
Microbiology								
Chlorine Residual, Total	Absent			mg/L	Ortho-Tolidine	12/16/2014 15:10	12/16/2014 15:10	
Coliform, Total	Absent		1	Org/100 mL	SM 9223 B-PA	12/16/2014 15:10	12/17/2014 15:10	
E. Coli	Absent		1	Org/100 mL	SM 9223 B-PA	12/16/2014 15:10	12/17/2014 15:10	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414055-02

Name: LDS Church Tooele FM Group

Sample Date: 12/16/2014 11:30 AM

Sample Site: Dugway

Receipt Date: 12/16/2014 1:11 PM

Comments: Raw

Sampler: Client

Sample Matrix: Drinking Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	1050	250	20	mg/L	EPA 300.0	12/16/2014 22:00	12/16/2014 22:00	
pH	7.5		0.1	pH Units	SM 4500 H-B	12/16/2014 12:00	12/16/2014 12:00	
Total Dissolved Solids (TDS)	3030	1000	20	mg/L	SM 2540 C	12/22/2014 11:19	12/22/2014 11:19	
Turbidity	60	5	0.02	NTU	EPA 180.1	12/16/2014 18:00	12/16/2014 18:02	
Metals								
Iron, Total	5.94	0.3	0.02	mg/L	EPA 200.7	12/29/2014 09:32	12/29/2014 13:46	
Manganese, Total	0.764	0.05	0.0005	mg/L	EPA 200.8	12/18/2014 08:46	12/18/2014 16:38	

CHAIN OF CUSTODY

COMPANY: LDS Church - Los Angeles Area Group
ADDRESS: 1550 N. 30 West
CITY/STATE/ZIP: Los Angeles CA 90074
PHONE #: 424-833-8073 FAX:
CONTACT: Matt Burkett PROJECT: Parkway Church
EMAIL: mburkett@ldschurch.org

BILLING ADDRESS: _____
BILLING CITY/STATE/ZIP: _____
PURCHASE ORDER #: _____

TURNAROUND REQUIRED:*

* Expedited turnaround subject to additional charge



CHEMTECH-FORD
LABORATORIES

STATE SYSTEM #

SEND TO STATE?

☐ YES ☐ NO

[illegible]

Lab Use Only	CLIENT SAMPLE INFORMATION					
	LOCATION	DATE	TIME	FACILITY ID (source code)	POINT CODE (DBP)	Field: Residual Chlorine
055						
01	1. Dayway Tracted	12/16/14	11:30am	23065		
02	2. Dayway Resu	12/16/14	11:30am	23065		
03	3. Rush Valley Tracted		6:46am	23043		
04	4. Rush Valley Resu	"	10:46am	23043		
	5.					
	6.					
	7.					
	8.					
	9.					
	10.					

Sampled by: [print]		Sampled by: [signature]		ON ICE		NOT ON ICE		Temp (C°): 7.1	
Special Instructions:				Samples received outside the EPA recommended temperature range of 0-6 C° may be rejected.					
Relinquished by: [signature]		Date/Time		Received by: [signature]		Date/Time			
Relinquished by: [signature]		Date/Time		Received by: [signature]		Date/Time			
Relinquished by: [signature]		Date/Time		Received by: [signature]		Date/Time			

CHEMTECH-FORD
9632 South 500 West
Sandy, UT 84070

801.262.7299 PHONE
866.792.0093 FAX
www.chemtechford.com

*Payment Terms are net 30 days OAC. 1.5% interest charge per month (18% per annum).
Client agrees to pay collection costs and attorney's fees.*

D- 625 (Na2S2O3)
G- Glass Unpreserved
H- HAAs (NH4Cl)
J- 508/515/525 (Na2SO3)
K- 515.3 Herbicides
O- Oil & Grease (HCl)
P- Phenols (H2SO4)
T- TOC/TOX (H3PO4)
U- 531 (MCAA, Na2S2O3)
V- 524/THMs (Ascorbic Acid)
W- 8260 VOC (1:1 HCl)
X- Vial Unpreserved
Y- 624/504 (Na2S2O3)
Z- Miscellaneous Glass



Certificate of Analysis

Report Footnotes

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit.

1 mg/L = one milligram per liter or 1 mg/Kg = one milligram per kilogram = 1 part per million.

1 ug/L = one microgram per liter or 1 ug/Kg = one microgram per kilogram = 1 part per billion.

1 ng/L = one nanogram per liter or 1 ng/Kg = one nanogram per kilogram = 1 part per trillion.

Flag Descriptions

Data Comparisons

Values reported in **RED** exceed Primary Drinking Water standards.

Values reported in **BLUE** exceed Secondary Drinking Water standards.

BLANK values in the MCL column indicate no standard.



12/31/2014

Work Order: 1414175

LDS Church Tooele FM Group

Attn: Matt Bunkall

P.O. Box 237

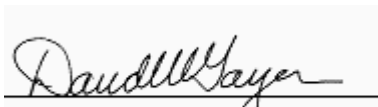
Tooele, UT 84074

Client Service Contact: 801.262.7299

The analyses presented on this report were performed in accordance with the National Environmental Laboratory Accreditation Program (NELAP) unless noted in the comments, flags or case narrative. If the report is to be used for regulatory compliance, it should be presented in its entirety, and not be altered.



Approved By:


Dave Gayer, Laboratory Director



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-01

Name: LDS Church Tooele FM Group

Sample Date: 12/17/2014 8:10 AM

Sample Site: Dugway Treated

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Metals								
Iron, Total	ND	0.3	0.02	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:13	
Manganese, Total	0.0127	0.05	0.0005	mg/L	EPA 200.8	12/23/2014 09:09	12/24/2014 10:00	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-02

Name: LDS Church Tooele FM Group

Sample Date: 12/17/2014 8:10 AM

Sample Site: Dugway Raw

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Metals								
Iron, Total	4.50	0.3	0.02	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:33	
Manganese, Total	0.720	0.05	0.0005	mg/L	EPA 200.8	12/23/2014 09:09	12/24/2014 10:03	



Certificate of Analysis

Lab Sample No.: 1414175-03

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 11:28 AM

Sample Site: Dugway Treated

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Calculations								
Hardness as CaCO ₃	8.0		1.3	mg/L	SM 2340B	12/29/2014 10:20	12/29/2014 15:37	
Metals								
Calcium, Total	1.9		0.2	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:37	
Iron, Total	0.02	0.3	0.02	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:37	
Magnesium, Total	0.8		0.2	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:37	
Manganese, Total	0.0290	0.05	0.0005	mg/L	EPA 200.8	12/23/2014 09:09	12/24/2014 10:07	



Certificate of Analysis

Lab Sample No.: 1414175-04

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 11:28 AM

Sample Site: Dugway Raw

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Calculations								
Hardness as CaCO ₃	1990		1.3	mg/L	SM 2340B	12/29/2014 10:20	12/29/2014 15:41	
Metals								
Calcium, Total	318		0.2	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:41	
Iron, Total	5.55	0.3	0.02	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:41	
Magnesium, Total	291		0.2	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:41	
Manganese, Total	0.729	0.05	0.0005	mg/L	EPA 200.8	12/23/2014 09:09	12/24/2014 10:11	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-05

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 11:30 AM

Sample Site: Dugway Treated

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	901	250	25	mg/L	EPA 300.0	12/19/2014 17:21	12/19/2014 17:21	
pH	7.5		0.1	pH Units	SM 4500 H-B	12/18/2014 11:40	12/18/2014 11:40	
Total Dissolved Solids (TDS)	2600	1000	20	mg/L	SM 2540 C	12/24/2014 08:59	12/24/2014 8:59	
Turbidity	0.56	5	0.02	NTU	EPA 180.1	12/18/2014 17:30	12/18/2014 17:32	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-06

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 11:30 AM

Sample Site: Dugway Raw

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	1000	250	25	mg/L	EPA 300.0	12/18/2014 17:00	12/18/2014 17:00	
pH	7.6		0.1	pH Units	SM 4500 H-B	12/18/2014 11:40	12/18/2014 11:40	
Total Dissolved Solids (TDS)	2960	1000	20	mg/L	SM 2540 C	12/24/2014 08:59	12/24/2014 8:59	
Turbidity	31	5	0.02	NTU	EPA 180.1	12/18/2014 17:30	12/18/2014 17:32	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-07

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 12:00 PM

Sample Site: Dugway Treated

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	908	250	25	mg/L	EPA 300.0	12/19/2014 17:21	12/19/2014 17:21	
Total Dissolved Solids (TDS)	2640	1000	20	mg/L	SM 2540 C	12/24/2014 08:59	12/24/2014 8:59	
Metals								
Sodium, Total	883		0.5	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:44	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1414175-08

Name: LDS Church Tooele FM Group

Sample Date: 12/18/2014 12:00 PM

Sample Site: Dugway - Water Softener

Receipt Date: 12/18/2014 2:00 PM

Comments: Dugway Well

Sampler: Matt Bunkall

Sample Matrix: Water

Project: DW 23065

PO Number:

Project Number:

System No.: UTAH23065

Source Code:

Sample Point:

Report to State:

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Chloride	910	250	25	mg/L	EPA 300.0	12/18/2014 17:00	12/18/2014 17:00	
Total Dissolved Solids (TDS)	2580	1000	20	mg/L	SM 2540 C	12/24/2014 08:59	12/24/2014 8:59	
Metals								
Sodium, Total	221		0.5	mg/L	EPA 200.7	12/29/2014 10:20	12/29/2014 15:48	

CHEMTECH - FORD ANALYTICAL LABORATORY

CHAIN OF CUSTODY

COMPANY: LDS Church Tocco FM Group
 ADDRESS: 1591 N. 30 W.
 CITY/STATE/ZIP: 8th Tocco UT 84074
 PHONE #: 435-830-8073 FAX: _____
 CONTACT: Matt Bunkell PROJECT: Runway well
 EMAIL: bunkellm3@ldschurch.org

BILLING ADDRESS: _____
 BILLING CITY/STATE/ZIP: _____
 PURCHASE ORDER #: _____

CHEMTECH-FORD
LABORATORIES

TURNAROUND REQUIRED:*

*Expedited turnaround subject to additional charge

Lab Use Only	CLIENT SAMPLE INFORMATION					TESTS REQUESTED												Bacteria					
	LOCATION / IDENTIFICATION	DATE	TIME	MATRIX	Field: Residual Chlorine													Total Coliform + E. coli (Present/Absent)	Total Coliform + E. coli (Enumerated)	HPC (Plate Count)	E. Coli Only		
1475																							
-01	1. Runway Treated	12-17-14	8:10am																				
-02	2. Runway Run	12-17-14	8:10am																				
-03	3. Runway Treated	12-18-14	11:28am																				
-04	4. Runway Run	12-18-14	11:28am																				
-05	5. Runway Treated	12-18-14	11:30am																				
-06	6. Runway Run	12-18-14	11:30am																				
-07	7. Runway Treated	12-18-14	12:00																				
-08	8. Runway - Water Softener	12-18-14	12:00																				
9.																							
10.																							
Sampled by: (print) <u>Matthew Bunkell</u>					Sampled by: (signature) <u>[Signature]</u>					ON ICE NOT ON ICE Temp (C°): <u>4.3</u>													
Special Instructions:										Samples received outside the EPA recommended temperature range of 0-6 C° may be rejected.													
Relinquished by: (signature) <u>[Signature]</u>					Date/Time <u>12/18/14 14:00</u>					Received by: (signature) <u>[Signature]</u>					Date/Time <u>12-18-14 1400</u>								
Relinquished by: (signature)					Date/Time					Received by: (signature)					Date/Time								
Relinquished by: (signature)					Date/Time					Received by: (signature)					Date/Time								

CHEMTECH-FORD
 9632 South 500 West
 Sandy, UT 84070

801.262.7299 PHONE
 866.792.0093 FAX
 www.chemtechford.com

Payment Terms are net 30 days OAC. 1.5% interest charge per month (18% per annum). Client agrees to pay collection costs and attorney's fees.

Work Order # 14175

CHEMTECH FORD LABORATORIES

Sample Receipt



CHEMTECH-FORD
LABORATORIES

Delivery Method:

- ☐ UPS ☐ USPS
☐ FedEx ☐ Chemtech Courier
☒ Walk-in ☐ Customer Courier

Receiving Temperature 4.3 °C

Sample Condition

(check if yes)

- ☐ Custody Seals
- ☐ Containers Intact
- ☐ COC/Labels Agree
- ☒ Preservation Confirmed
- ☒ Received on Ice
- ☒ Correct Container(s)
- ☒ Sufficient Sample Volume
- ☐ Headspace Present (VOC)
- ☐ Temperature Blank
- ☒ Received within Holding Time

Plastic Containers

- A- Plastic Unpreserved
- B- Miscellaneous Plastic
- C- Cyanide Qt (NaOH)
- E- Coliform/Ecoli/HPC
- F- Sulfide Qt (Zn Acetate)
- L- Mercury 1631
- M- Metals Pint (HNO3)
- N- Nutrient Pint (H2SO4)
- R- Radiological (HNO3)
- S- Sludge Cups/Tubs
- Q- Plastic Bag

Glass Containers

- | |
|------------------------------|
| D- 625 (Na2S2O3) |
| G- Glass Unpreserved |
| H- HAA's (NH4Cl) |
| J- 508/515/525 (Na2SO3) |
| K- 515.3 Herbicides |
| O- Oil & Grease (HCl) |
| P- Phenols (H2SO4) |
| T- TOC/TOX (H3PO4) |
| U- 531 (MCAA, Na2S2O3) |
| V- 524/THM's (Ascorbic Acid) |
| W- 8260 VOC (1:1 HCl) |
| X- Vial Unpreserved |
| Y- 624/504 (Na2S2O3) |
| Z- Miscellaneous Glass |

[illegible]



Certificate of Analysis

Report Footnotes

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit.

1 mg/L = one milligram per liter or 1 mg/Kg = one milligram per kilogram = 1 part per million.

1 ug/L = one microgram per liter or 1 ug/Kg = one microgram per kilogram = 1 part per billion.

1 ng/L = one nanogram per liter or 1 ng/Kg = one nanogram per kilogram = 1 part per trillion.

Flag Descriptions

Data Comparisons

Values reported in **RED** exceed Primary Drinking Water standards.

Values reported in **BLUE** exceed Secondary Drinking Water standards.

BLANK values in the MCL column indicate no standard.



1/30/2015

Work Order: 1500781

LDS Church Tooele FM Group

Attn: Matt Bunkall

P.O. Box 237


Tooele, UT 84074

Client Service Contact: 801.262.7299

The analyses presented on this report were performed in accordance with the National Environmental Laboratory Accreditation Program (NELAP) unless noted in the comments, flags or case narrative. If the report is to be used for regulatory compliance, it should be presented in its entirety, and not be altered.



Approved By:


Dave Gayer, Laboratory Director



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1500781-01

Name: LDS Church Tooele FM Group

Sample Date: 1/23/2015 12:20 PM

Sample Site: Dugway

Receipt Date: 1/23/2015 4:00 PM

Comments: Treated

Sampler: Client

Sample Matrix: Water

Project Number:

PO Number:

Parameter	Sample Result	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Calculations							
Hardness as CaCO ₃	22.0	1.3	mg/L	SM 2340B	01/29/2015 10:03	1/29/2015 16:23	
Inorganic							
Chloride	1060	20	mg/L	EPA 300.0	01/23/2015 17:00	1/23/2015 17:00	
pH	8.1	0.1	pH Units	SM 4500 H-B	01/27/2015 13:07	1/27/2015 13:09	SPH
Total Dissolved Solids (TDS)	3090	20	mg/L	SM 2540 C	01/28/2015 08:35	1/28/2015 8:35	
Turbidity	0.10	0.02	NTU	EPA 180.1	01/23/2015 14:58	1/23/2015 15:01	
Metals							
Calcium, Total	3.4	0.2	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:23	
Iron, Total	ND	0.02	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:23	
Magnesium, Total	3.3	0.2	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:23	
Manganese, Total	ND	0.005	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:23	
Sodium, Total	940	0.5	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:23	
Microbiology							
Chlorine Residual, Total	Absent		mg/L	Ortho-Tolidine	01/23/2015 16:45	1/23/2015 16:45	
Coliform, Total	Absent	1	Org/100 mL	SM 9223 B-PA	01/23/2015 16:45	1/24/2015 16:45	
E. Coli	Absent	1	Org/100 mL	SM 9223 B-PA	01/23/2015 16:45	1/24/2015 16:45	



CHEMTECH-FORD
LABORATORIES

Certificate of Analysis

Lab Sample No.: 1500781-03

Name: LDS Church Tooele FM Group

Sample Date: 1/23/2015 12:20 PM

Sample Site: Dugway

Receipt Date: 1/23/2015 4:00 PM

Comments: Raw

Sampler: Client

Sample Matrix: Water

Project Number:

PO Number:

Parameter	Sample Result	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Calculations							
Hardness as CaCO ₃	2010	1.3	mg/L	SM 2340B	01/29/2015 10:03	1/29/2015 16:31	
Inorganic							
Chloride	1020	20	mg/L	EPA 300.0	01/23/2015 17:00	1/23/2015 17:00	
pH	8.0	0.1	pH Units	SM 4500 H-B	01/27/2015 13:07	1/27/2015 13:09	SPH
Total Dissolved Solids (TDS)	2750	20	mg/L	SM 2540 C	01/28/2015 08:35	1/28/2015 8:35	
Turbidity	5.3	0.02	NTU	EPA 180.1	01/23/2015 14:58	1/23/2015 15:01	
Metals							
Calcium, Total	315	0.2	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:31	
Iron, Total	5.26	0.02	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:31	
Magnesium, Total	297	0.2	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:31	
Manganese, Total	0.842	0.005	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:31	
Sodium, Total	230	0.5	mg/L	EPA 200.7	01/29/2015 10:03	1/29/2015 16:31	



Certificate of Analysis

Lab Sample No.: 1500781-05

Name: LDS Church Tooele FM Group

Sample Date: 1/23/2015 12:45 PM

Sample Site: Dugway

Receipt Date: 1/23/2015 4:00 PM

Comments:

Sampler: Client

Sample Matrix: Water

Project Number:

PO Number:

Parameter	Sample Result	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Microbiology							
Chlorine Residual, Total	Absent		mg/L	Ortho-Tolidine	01/23/2015 16:45	1/23/2015 16:45	
Coliform, Total	Absent	1	Org/100 mL	SM 9223 B-PA	01/23/2015 16:45	1/24/2015 16:45	
E. Coli	Absent	1	Org/100 mL	SM 9223 B-PA	01/23/2015 16:45	1/24/2015 16:45	



Certificate of Analysis

Report Footnotes

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit.

1 mg/L = one milligram per liter or 1 mg/Kg = one milligram per kilogram = 1 part per million.

1 ug/L = one microgram per liter or 1 ug/Kg = one microgram per kilogram = 1 part per billion.

1 ng/L = one nanogram per liter or 1 ng/Kg = one nanogram per kilogram = 1 part per trillion.

Flag Descriptions

SPH = Sample submitted past method specified holding time.